The Builder.

No. CXLVIII.

SATURDAY, DECEMBER 6, 1845.

WE wish to direct attention to one or two important points in the structural arrangement of STABLES. We have often had occasion to speak of the slowness with which the practical man adopts the deductions from scientific investigations: the tendency to continue taking an old path, although a new one, to shorten the distance considerably, may be close at hand. What *has* done, will do again: and so we go on year after year in error, without troubling ourselves to reflect on the possibility of improvement, or even looking right or left to see what others are doing. Worse, however, than this:—even when the evils of a course are *known*, and instructions to obviate them are given, timidity, apathy, or obstinacy induces the majority to continue in it. The want of scientific arrangement in residences and workshops has killed thousands of human beings, and has produced an appalling amount of discomfort, distress, demoralization, and misery. This wholesale slaughter is still going on, and the great mass of the people think little about it, and care less; it is so common for people to be ill, and to die when young, that they look upon these occurrences as matters of course, and, rather than take any trouble, persuade themselves that nothing can be done to avert them.

This being the case, it is not greatly to be wondered at, that they condemn their *horses* to the same casualties, by constructing stables for them pregnant with diseases. To arrange them otherwise, in the first instance, would cost little or nothing, and save us, say, five-and-twenty *per cent.* in horseflesh. But what of that? To effect it we must do something new, and we don't like new-fangled notions; besides, it might fail after all; and, moreover, new things give trouble. No; we will go on in the old way, and if our horses fall ill we are no worse off than our neighbours; and if they die, why it is what happens to every thing.

There are some, however, who may think it worth while to try if this said dying cannot be postponed for a time, and may be willing to give themselves a little trouble, to retain for some additional years, the services of a faithful servant. To such we would point out the importance, lstly, of properly ventilating the stables, and, 2ndly, of immediately getting rid of all traces of the droppings from the horse, with which end in view a floor impervious by moisture is absolutely necessary.

Loudon says, in his "Encyclopædia of Cottage and Farm Architecture,"—"The stable in which the horse is lodged should have its doors and windows to the south-east, as the mildest aspect, and in general have all its openings on one side, and in the roof, to prevent cross drafts of air. It ought to be on a dry soil, or, if on a wet one, it should be raised above it by a hollow floor, or by materials of a kind which will contain interstices of air between the natural surface and the artificial floor. All stables should be large, cool, and capable of being well ventilated. The proper temperature for a horse is 60 deg. in winter, and from 60 deg. to 63 deg. in summer. The best mode of ventilating a stable in winter is by trunks or tubes of boards, about a foot square, forming openings under the eaves, or carried up through the ceiling, where there is one, so as to pass through the roof, their tops being covered in such a manner as to exclude the rain, without impeding the ascent of the heated air. The inside openings of all these tubes should have small sliding shutters to regulate the ventilation. In summer, this is best effected by having the windows filled in with hinged luffer boards, or by having glass windows, with outer luffer blinds. In the latter case, the quantity of air admitted, both in summer and winter, may be very accurately regulated by the degree to which the glass windows are opened."

The arrangement for ventilation here pointed out is insufficient; it is simply an improvement on none at all, and even this is not provided in half the stables used. Air should be obtained in controllable quantities, by openings independent of the doors and windows; and, in large establishments, the removal of the vitiated air should be aided by mechanical means;—by the creation of currents irrespective of mere levity and the state of the atmosphere, such as by heat or the archimedian screw.

In a range of stables for forty horses, recently erected by Mr. Dickinson, in Curzon-street, May Fair, great pains have been taken in this and other respects. An air-flue communicating with the external atmosphere, opens into each stall in two places, full in face of the horse (just above the bottom of the rack), the openings being masked by two pieces of perforated zinc, each about two feet long, and one foot wide. The air, in its passage to these openings, is made to pass over some pipes filled with water, which can be heated, so that in very cold weather, the fresh air admitted to the stables is first raised to a proper temperature. Immediately under the ceiling, are openings into a flue which communicates with a chimney where a fire is constantly burning, by which means the air is rapidly drawn off. The ordinary means of ventilation, windows and openings over the doors, are likewise provided to meet extreme cases. For closing each of the latter, a sash is used, divided into small squares, whereof every alternate one is left open; a second sash behind this, and about four-fifths of its length, has the corresponding squares glazed, and the others open; and thus, by shifting the latter backwards or forwards, admittance is given to the air either in large or small quantities. Mr. Dickinson assured us that one stall in some old stabling, which we saw (it had a skylight immediately over the hind quarters of the animal), produced more sick horses in the course of the twelve-month than *the new range for forty-one horses*. It is right to say, that the system of ventilation to which we have referred was arranged by the proprietor, and carried out for him by Mr. Sylvester. As regards stable floors, nothing can be much worse than those commonly laid down, consisting of boulders, or bricks, in a bed of sand. The liquid manure penetrates the interstices, and is rapidly decomposed, giving off large quantities of ammoniacal gas, and vitiating the atmosphere to a great extent.

The object to be attained is, a floor impermeable by liquids, and so arranged that all which is thrown upon it may immediately run off. The writer of a useful article on the subject, in a recent number of the *Ayrshire Agriculturalist*, says:—"Let the centre of the causewayed stall be removed *two* feet in breadth and five feet in length, measuring from the croup end of the stall. Flags of sandstone pavement, of one foot in breadth, three inches thick, and of convenient length, having the inner or central edges bevelled to such an angle as that, when the two are brought together, there will be a space or central gutter formed like a V, one inch and a half in breadth at the surface, and two inches deep at the apex of the inverted cone, (the bottom of which space must be filled with cement or pitch,) a slight downward and backward inclination must be given to the paving stones, so that whatever liquid may be dropped upon them shall be rapidly conducted towards the hind quarters, and from thence conveyed, *on the surface*, to the point in the exterior found most convenient for a tank or reservoir, where it may be stored till required as manure."

Gutters, of the sort here described, could, however, hardly be depended on. Small cast-iron gutters, covered with a close grating fitted closely into the top of it, are easily obtainable. In each stall there should be, in addition to the gutter behind, a branch up the middle to the extent of half its depth. In each loose box there should be three or four of these gutters in parallel lines, or they may be extended from the centre of the compartment in four directions, like a right-angled cross. Granite pitching, or paving bricks, *in asphalte*, have been used for stable floors, and seem to answer the purpose well. To avoid irregularities, when expense is not cared for, a concrete foundation should be prepared for the paving: to keep back the rats, a layer of broken glass in the centre of the concrete will be found efficacious.

In making arrangements for carrying off expeditiously the whole of the urine, it is desirable to recollect, that if collected in a tank, it is exceedingly valuable as a manure. We saw recently, a fourth cutting of grass from the same field, obtained through the use of it.

Racks are less used than they were, and wisely so. The manger should be divided into two parts, and one of them be made deeper than the other, to contain hay or green meat. In Mr. Cubitt's stables at Thames Bank, each horse is supplied with a lump of rock-salt, placed in a compartment of the manger. In this same establishment, with the view of preventing to the utmost the vitiation of the air, plaster of Paris, saturated with sulphuric acid is sprinkled periodically over the floor to absorb deleterious gases.

We terminate our present remarks with an assurance, that by attention to the ventilation of their stables, and the construction of the floors, all persons who keep horses may effect a considerable saving. A well-drained, impermeable floor, is, as we have already said, of the utmost importance.

COMPETITION CARTOONS FOR THE ART-UNION OF LONDON.

IN order that the committee may determine, what accommodation will be required for the exhibition of the cartoons to be submitted in competition for the premium of 500*l.* offered by the society, artists were each requested to send to the office on or before Monday last, a sealed letter containing his name and address, and having on the outside the title of his intended painting, and a motto or device, by which the cartoon must also be distinguished.

In compliance with this request, twenty-six letters have been forwarded to the office, and the committee are now seeking a fitting gallery to receive the designs. It may be well to mention, that artists who have not sent intimation of their intention to forward a cartoon are not thereby disqualified; this was simply a request, not a stipulation.

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